(U//FOUO) PATENTHAMMER

FROM: [redacted], USAF
Chief, National Tactical Integration Office
Run Date: 06/11/2003

(S//SI) After 9/11, the Special Operations Command (SOCOM) identified a major gap in its threat warning coverage against terrorist cellular, fax, and pager communications. They needed help, and the Customer Relationships Directorate's National Tactical Integration Office (NTIO) responded. The NTIO provided a portable, advanced signal collection system with a remote, reach-back capability to Special Operations Forces and Navy SEALs deploying to Kosovo, Georgia, Afghanistan, Saudi Arabia, Bahrain, and the Philippines. This system, PATENTHAMMER, was already in development as a National Tactical Integration (NTI) proof-of-concept to demonstrate reach-forward/ reach-back operations and to promote technology insertion into tactical SIGINT capabilities.

(U) What Does "Reach Forward" and "Reach Back" Mean?

(U) Reach-forward capabilities enable personnel in surface/ground and national facilities to obtain current information from active collection assets. With this information, an analyst in an intelligence center can fuse multiple data inputs to more effectively support cross-system cueing, data correlation, or other intelligence functions.

(U) Reach-back capabilities allow active collection assets to "reach back" into databases of surface/ground and national facilities to retrieve information that will assist them in satisfying their operational tasking. For example, an airborne reconnaissance operator can obtain historical data (reach back) as well as current information (reach forward) on a target of interest that other sensors covering the same operational theater provide.

(S) Army Incorporates PATENTHAMMER Technology Into its PROPHET System

(S) Based on successful PATENTHAMMER demonstrations, the Army has incorporated PATENTHAMMER technology into PROPHET, its tactical SIGINT/Early Warning system. PROPHET provides force protection by allowing the Brigade Commander to visualize his battle space. Specifically, it provides:

- relevant, time-critical actionable information such as reports of intercepted voice communications and Lines of Bearing location data on target emitters.
- early warning of potential threats in areas of operation, using collected SIGINT and ground surveillance information.

(S) As a result of PATENTHAMMER technology, the Army is now able to provide SIGINT capabilities against modern signals (e.g., cellular, fax, and pager) two years ahead of schedule. Ten PATENTHAMMER systems-- consisting of collection radios with line-of-sight, DF, and MVSAT communications packages-- were incorporated into PROPHET in support of Operation Iraqi Freedom. The first four of these Army PROPHET-HAMMER systems have already been deployed to units in the Baghdad, Mosul, and Tikrit areas of Iraq with the remaining six to follow this summer.

(S//SI) Army Teams With GRSOC/PROPHET-HAMMER System Placed in GRSOC Cell

(S//SI) Army involvement in the PATENTHAMMER program led to a teaming effort with the Ft Gordon Regional Security Operations Center (GRSOC) to place a PROPHET-HAMMER back-end system in the GRSOC Tactical Cell. This summer, GRSOC will have direct connectivity to all PROPHET-HAMMER systems deployed in Iraq. This will enable them to share data, tune PROPHET-HAMMER receivers, listen to live voice intercepts, obtain DF information on signals, and survey the signal spectrum.

(S) NTIO Teams With KRSOC/What the Future Holds/For More Information

(S//SI) The NTIO is working with the Kunia Regional Security Operations Center (KRSOC) on a Joint Chiefs of Staff Special Projects Exercise to provide a similar NTI proof-of-concept capability for reach-forward/reach-back operations in the Pacific. Assuming operations at GRSOC and KSROC are successful, the next step will be to include this type of functionality as part of SID's future Radio Frequency (RF) strategy for HF/UHF/VHF collection. The SIGINT capability of these new advanced digital software radios can satisfy both National and Tactical SIGINT requirements and has the potential to fill major gaps in the RF collection environment.

(U//FOUO) For more information on PATENTHAMMER and PROPHET, contact [redacted], [redacted], [redacted]@nsa. Additionally, a PATENTHAMMER PowerPoint briefing can be accessed from this web page .
